

Applicant: Brodeur et al.  
Application Serial No.: 09/723,852  
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Claim 1. (original) An implantable composite tubular prosthesis comprising:  
a first substantially continuous PTFE tubular body;  
a second perimetricaly non-continuous tubular body; and  
a circumferentially deformable support structure interposed between said tubular bodies,  
said second tubular body being formed of a plurality of elongate polytetrafluoroethylene strips,  
said strips secured to the first tubular body, arranged longitudinal in non-over-lapping  
relationship, whereby axial and radial compliance is provided to said prosthesis.

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Claim 2. (original) The composite tubular prosthesis according to claim 1, wherein said first  
tubular body is an inner tubular body and said second tubular body is an outer tubular body of  
said prosthesis.

Claim 3. (original) The composite tubular prosthesis according to claim 1, wherein said first  
tubular body is an outer tubular body and said second tubular body is an inner tubular body of  
said prosthesis.

Claim 4. (original) The composite tubular prosthesis according to claim 1, wherein the PTFE  
of said first body is expanded PTFE.

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Claim 5. (original) The composite tubular prosthesis according to claim 1, wherein said deformable support structure is a stent.

Claims 6-8 (canceled)

Claim 9. (original) The composite intraluminal prosthesis according to claim 1, wherein the substantially continuous body is formed of a sheet or spirally wrapped strip.

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Claim 10. (original) The composite intraluminal prosthesis as in claim 1, wherein the first tubular body is an extruded PTFE tube.

Claim 11. (original) The composite intraluminal prosthesis as in claim 1, wherein the PTFE of said second body is ePTFE.

Claim 12. (original) The composite intraluminal prosthesis according to claim 1, wherein the deformable support structure is a wire stent with longitudinally adjacent waves being nested along the length of the tubular body and peaks of said longitudinally nested waves are linearly aligned.

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Claim 13. (original) The composite intraluminal prosthesis according to claim 1, wherein the first body is secured to said second body by thermal bonding.

Claim 14. (canceled)

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Claim 15. (original) The composite intraluminal prosthesis according to claim 1, wherein said continuous polytetrafluoroethylene tubular first body is comprised of a sheet of expanded polytetrafluoroethylene formed into a tubular shape by wrapping said sheet about a longitudinal axis.

Claim 16. (previously Amended) An implantable composite intraluminal prosthesis comprising:  
a first perimetricaly non-continuous polytetrafluoroethylene tubular inner body;  
a second perimetricaly non-continuous polytetrafluoroethylene outer tubular body; and  
a circumferentially deformable support structure interposed between the inner and outer tubular bodies, both said outer tubular body and said inner tubular body being formed of polytetrafluoroethylene strips, having a longitudinal length greater than its width, and said strips within each tubular body arranged in non-overlapping relationship, with the strips of the inner tubular body overlapping the discontinuities of the outer tubular body, and secured in the overlap, whereby axial and circumferential compliance is provided to said prosthesis, wherein

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both said first inner tubular body and said second outer tubular body are non-continuous along the entire length of said tubular bodies.

Claim 17. (original) A method of providing axial and circumferential compliance to an intraluminal prosthesis stent/graft composite comprising:

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- a) providing a first substantially continuous polytetrafluoroethylene tubular body;
  - b) positioning a deformable support structure over the tubular first body;
  - c) positioning PTFE strip components in non-overlapping relationship, lengthwise along the length of the first body and support structure to form a tubularly shaped second body; and
  - d) attaching the strips of the second body to the first body.

Claim 18. (previously Amended) A method of providing axial and circumferential compliance to an intraluminal prosthesis stent/graft composite comprising:

- a) positioning PTFE strip components, having a length greater than their width, lengthwise along a mandrel, in non-overlapping relationship, to form a circumferentially non-continuous polytetrafluoroethylene tubular first body;
- b) positioning a deformable support structure over said first body;

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- c) positioning PTFE strip components, lengthwise along the longitudinal axis of said inner body, in non-overlapping relationship but overlapping the discontinuities of the first body to form a second body; and
- d) securing said second body to the first body to form said prosthesis.

Claim 19. (new) An implantable composite tubular prosthesis comprising:

a first PTFE tubular body;  
a second non-continuous tubular body; and  
a circumferentially deformable support structure interposed between said tubular bodies,  
said second tubular body being formed of a plurality of polytetrafluoroethylene strips, said strips secured to the first tubular body, arranged in non-overlapping relationship, whereby axial and radial compliance is provided to said prosthesis.

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Claim 20. (new) An implantable composite tubular prosthesis comprising:

a first PTFE tubular body;  
a second non-continuous tubular body; and  
a circumferentially deformable support structure interposed between said tubular bodies,  
said second tubular body being formed of a plurality of polytetrafluoroethylene strips, said strips being formed into segments arranged in a non-overlapping relationship along the length of said

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prosthesis, said strips secured to the first tubular body, whereby axial and radial compliance is provided to said prosthesis.

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Claim 21. (new) An implantable composite intraluminal prosthesis comprising:

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a first perimetricaly non-continuous polytetrafluoroethylene tubular inner body, said inner body being formed of individual longitudinally extending polytetrafluoroethylene strips, said strips within each tubular body arranged in non-overlapping relationship, said strips having a longitudinal length greater than its width;

a second non-continuous polytetrafluoroethylene outer tubular body, said outer body being a plurality of polytetrafluoroethylene segments arranged in a non-overlapping relationship along the length of the prosthesis; and

a circumferentially deformable support structure interposed between the inner and outer tubular bodies,

said strips of the inner tubular body overlapping a portion of the segments of the outer tubular body, and secured in the overlap, whereby axial and circumferential compliance is provided to said prosthesis.

Claim 22. (new) An implantable composite tubular prosthesis comprising:

a first polytetrafluoroethylene tubular body;

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a plurality of generally straight polytetrafluoroethylene strips, said strips being arranged to define a tubular form with said strips being generally parallel and arranged in non-overlapping relationship; and

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a circumferential deformable support structure interposed between said continuous body and said tubular form, wherein said strips being secured to said continuous body.